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Carter

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[54] **RETRACTABLE SENSOR ARRAY SYSTEM**

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[51] **Int. Cl.**[6] **H04R 17/00**; H04R 23/00

[52] **U.S. Cl.** **367/173**; 367/153; 367/155; 367/165; 367/169; 310/337; 310/800

[58] **Field of Search** 367/173, 153, 367/155, 165, 169; 310/337, 800

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[57] **ABSTRACT**

A retractable sensor array system is used to provide a large aperture sensor array, such as a sonar array, that receives acoustic energy in a deployment medium. The retractable sensor array system includes one or more sensor array sheets having one or more sensors and a sensor array positioning mechanism for deploying and retracting the sensor array sheet from a platform, such as a ship, submarine, aircraft, space vehicle or medical device. The sensor array positioning mechanism preferably includes a motor that automatically and selectively deploys and retracts the one or more sensor array sheets by rolling and unrolling the sensor array sheets. The retractable sensor array system allows the one or more sensor array sheets to be deployed from various locations on a platform and also in various directions from the platform depending upon the desired usage, platform orientation, position and deployment medium conditions. Each sensor array sheet includes a sensor array sheet support member, that urges and supports the sheet in a deployed position.

17 Claims, 3 Drawing Sheets